

ENHANCED LITHOGRAPHIC DISPLACEMENT MEASUREMENT SYSTEM

ABSTRACT OF THE DISCLOSURE

Measurements of an interferometric measurement system are corrected for variations of atmospheric conditions such as pressure, temperature, and turbulence using measurements from a second harmonic interferometer (SHI). A ramp, representing the dependence of the SHI data on path length, is removed before utilizing the SHI data. The SHI may include a passive Q-switched laser as a light source and Brewster prisms in the receiver module. Optical fibers may be used to conduct light to the detectors. A mirror reflecting the measurement beams has a coating of a thickness selected to minimize the sensitivity of the SHI data to changes in coating thickness.